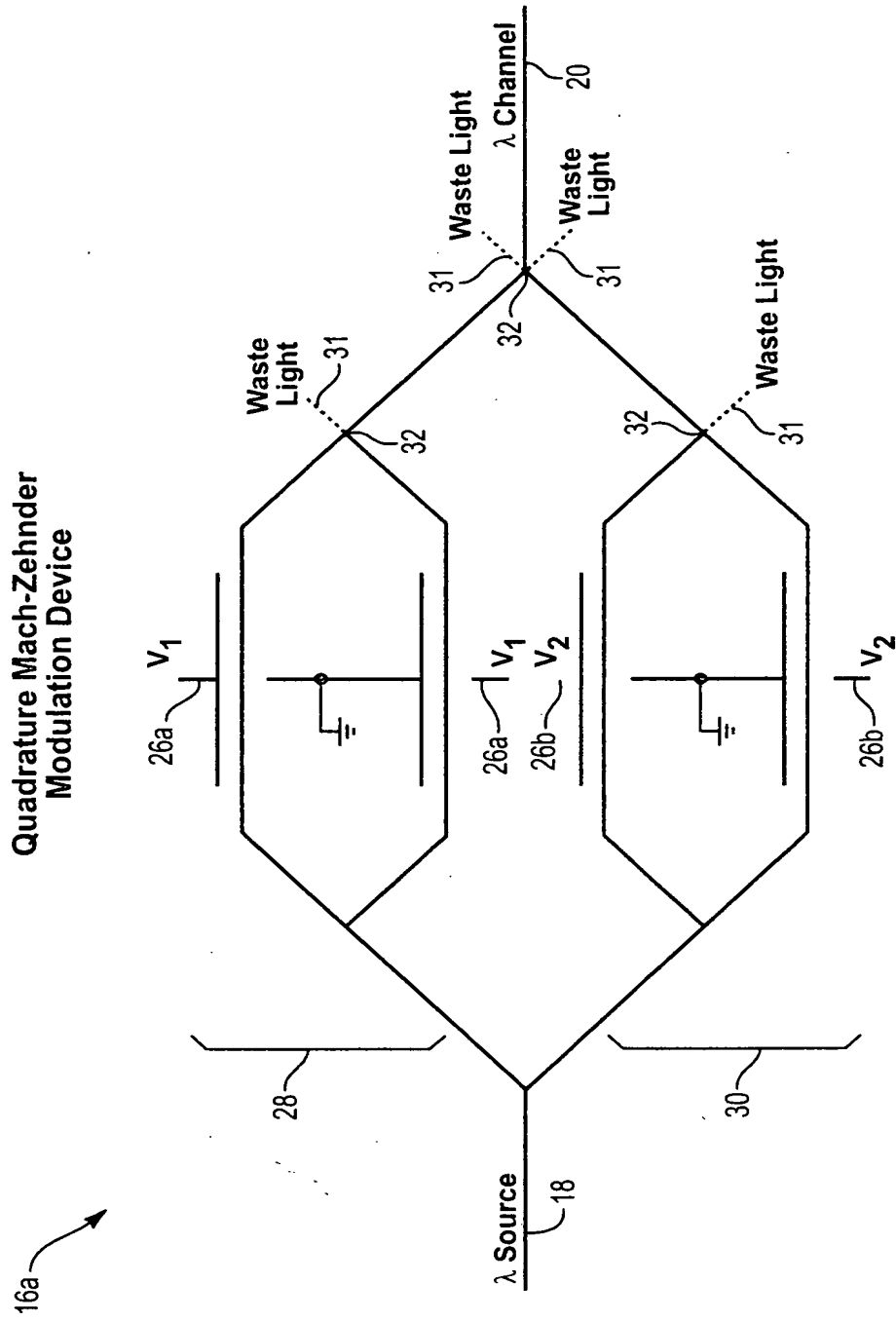


FIG. 1



**FIG. 2**

# Mach-Zehnder Device Transfer Function

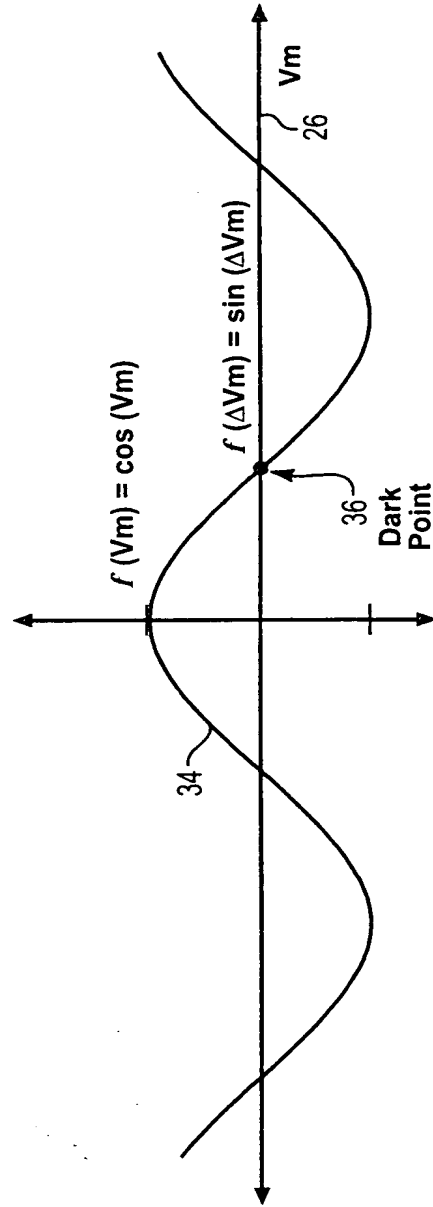


FIG. 3

Modulation Synthesizer

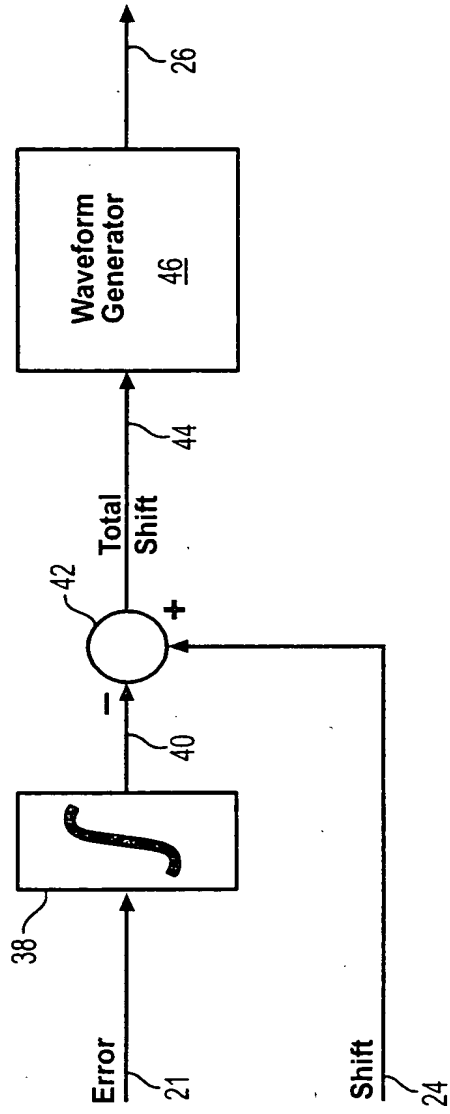


FIG. 4

# Quadrature Modulation Synthesizer (With On/Off Data Keying)

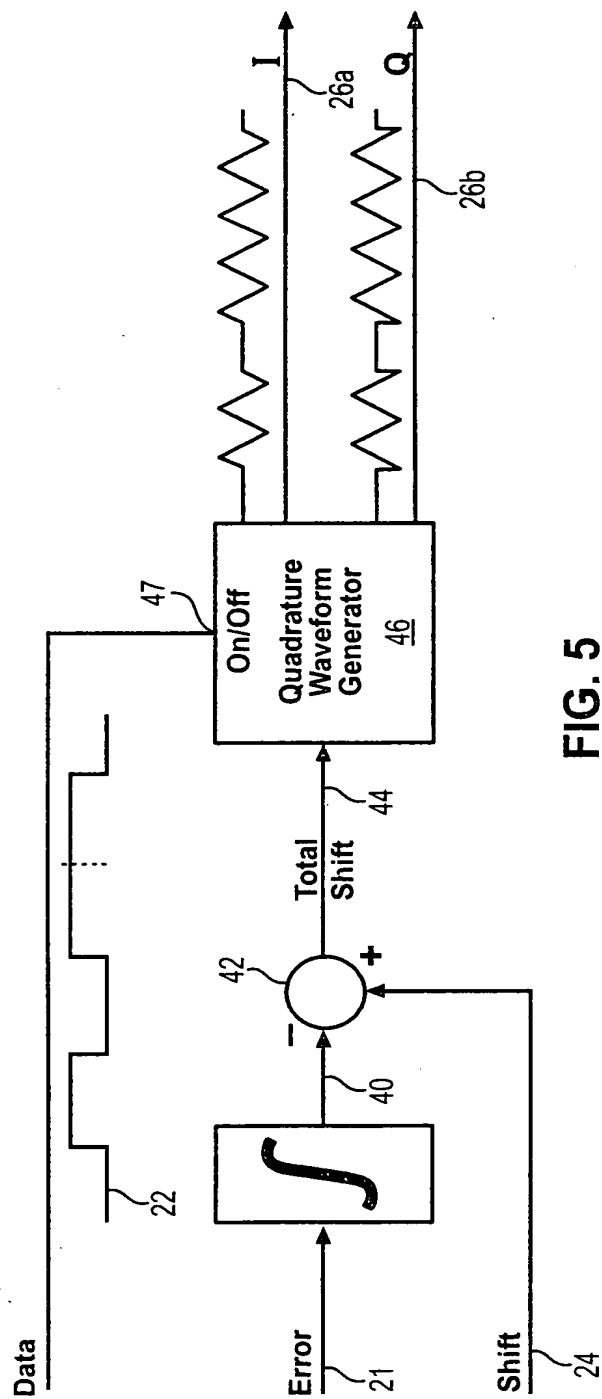


FIG. 5

FIG. 6 is a schematic diagram of a phase modulation device.

Phase Modulation Device

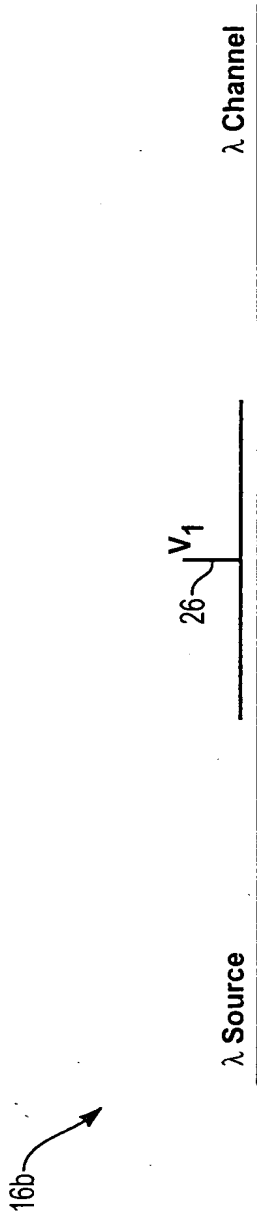


FIG. 6

# Modulation Synthesizer (With Frequency Shift Keying)

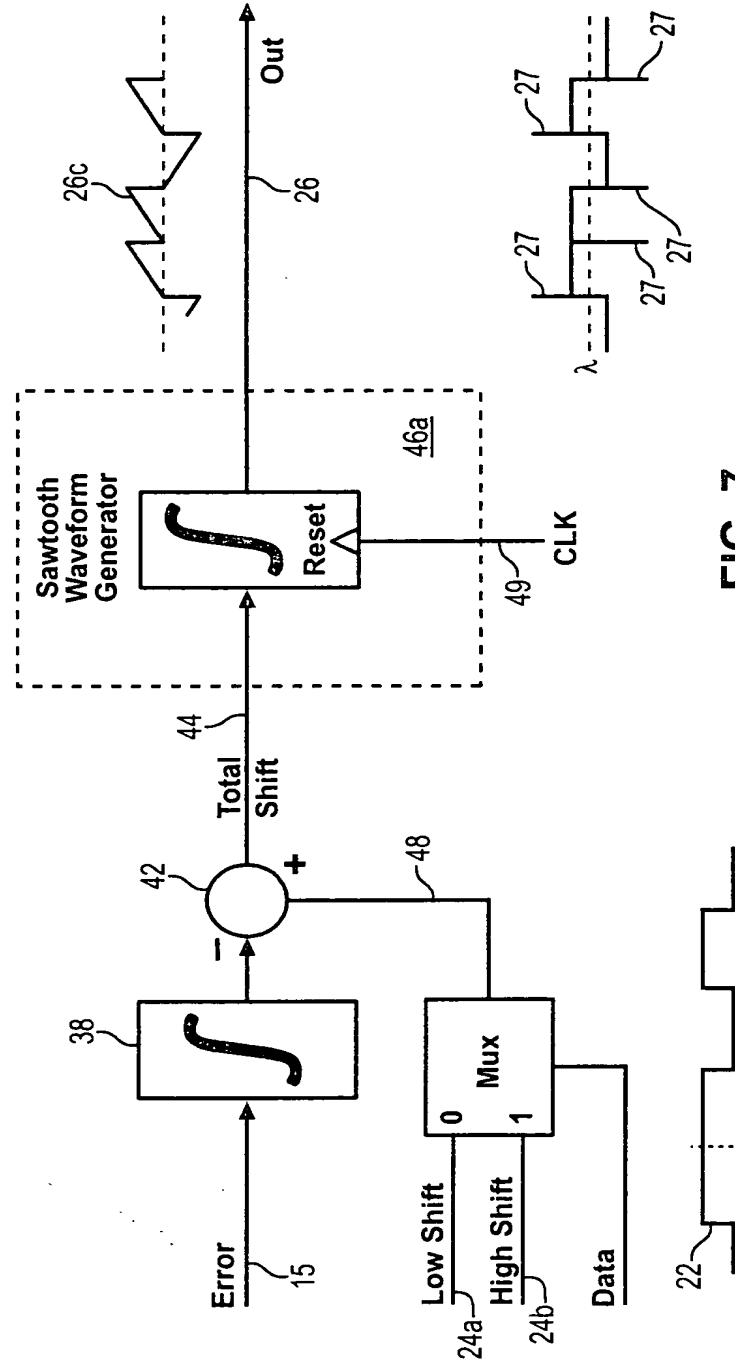


FIG. 7

# Wavelength Error Detector (Fixed Wavelength)

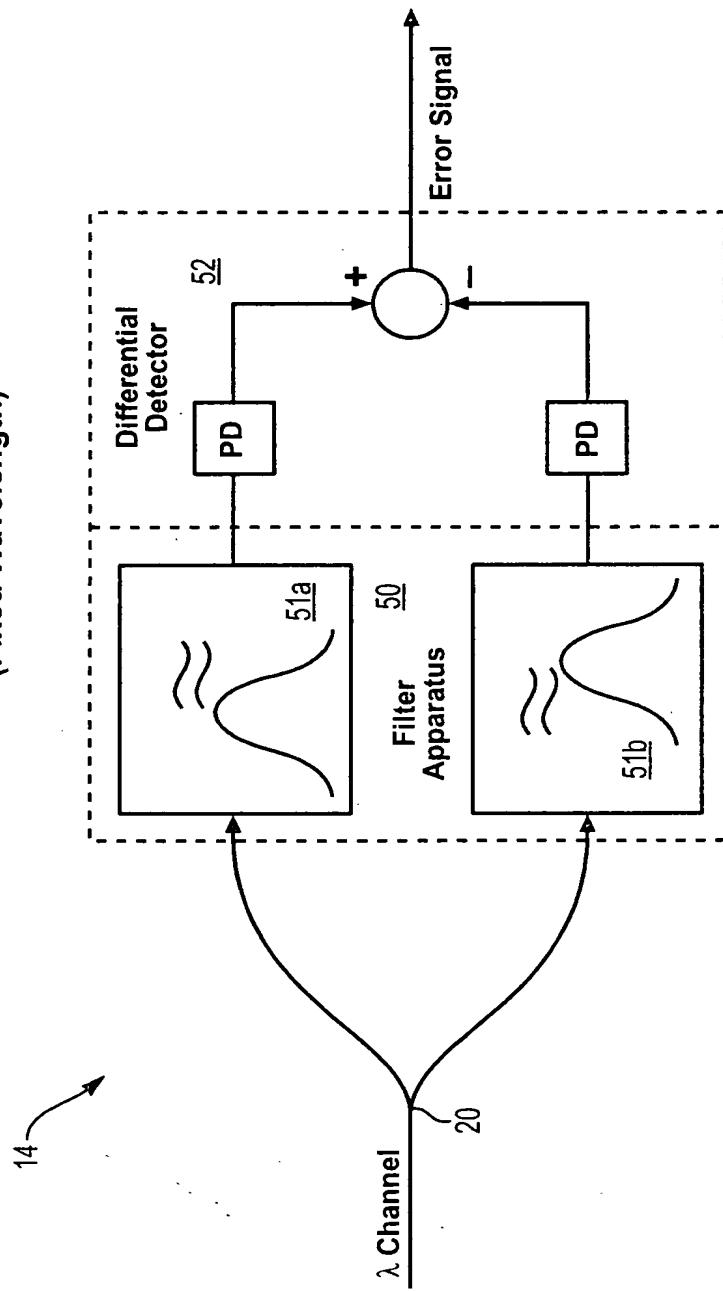
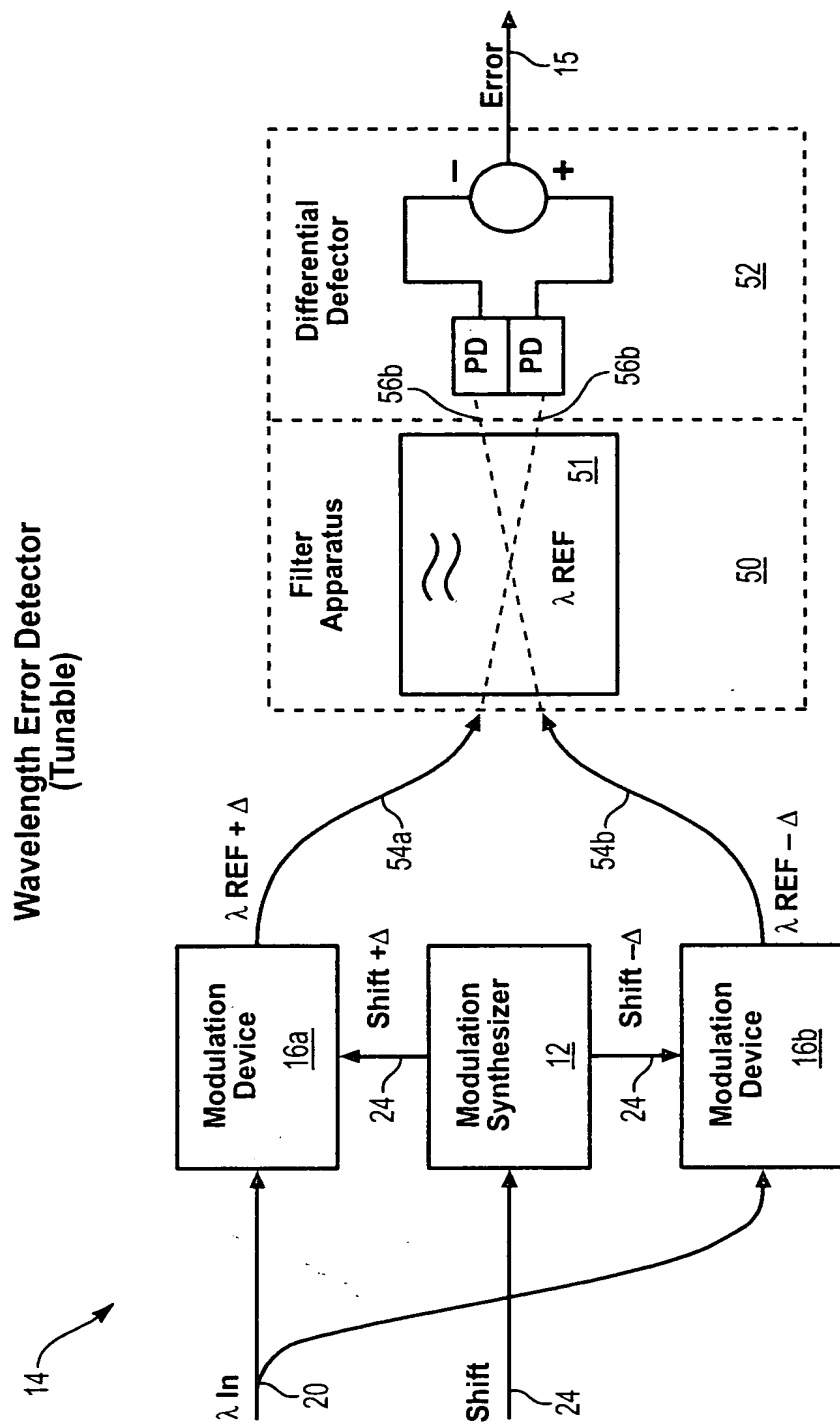


FIG. 8





**FIG. 9**

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# Wavelength Error Detector (Tunable)

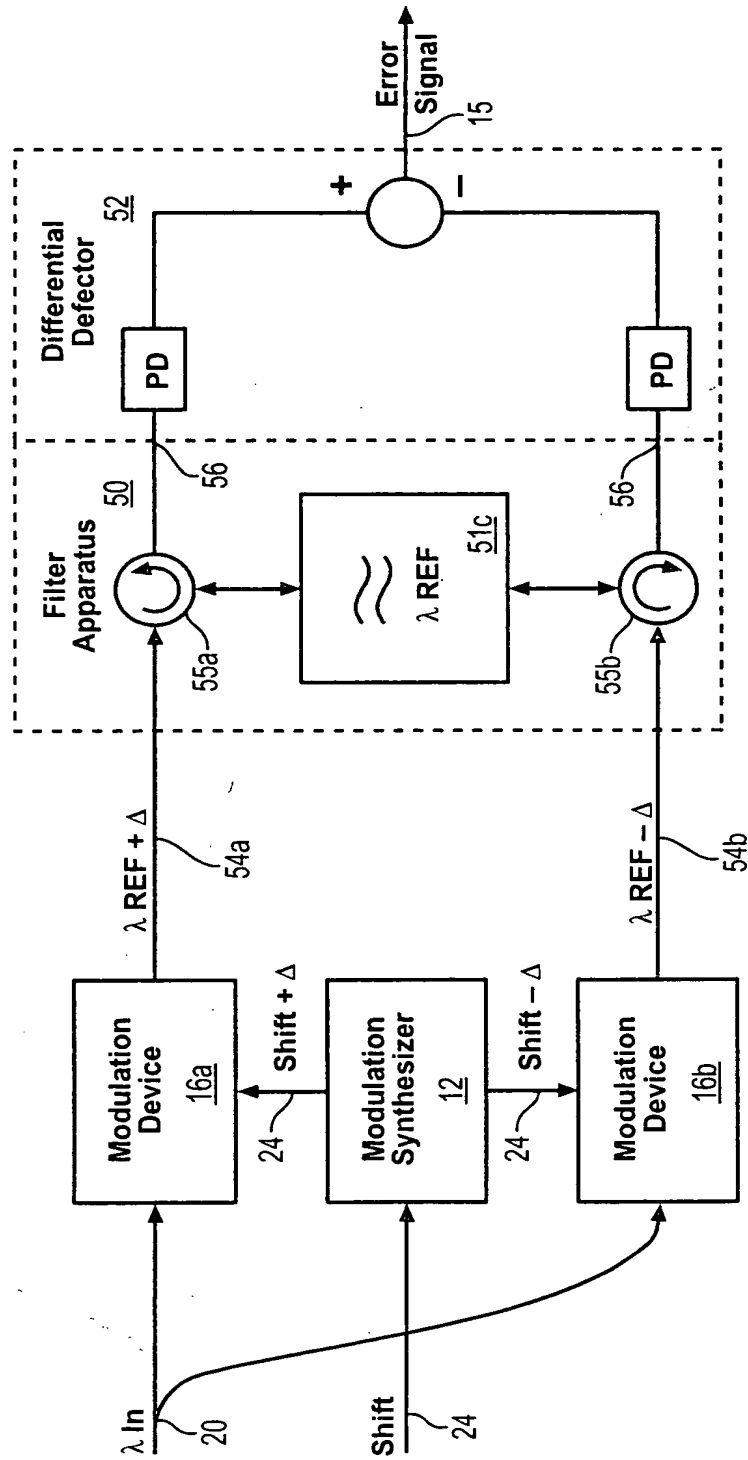


FIG. 10

### Channel Allocation Mechanism

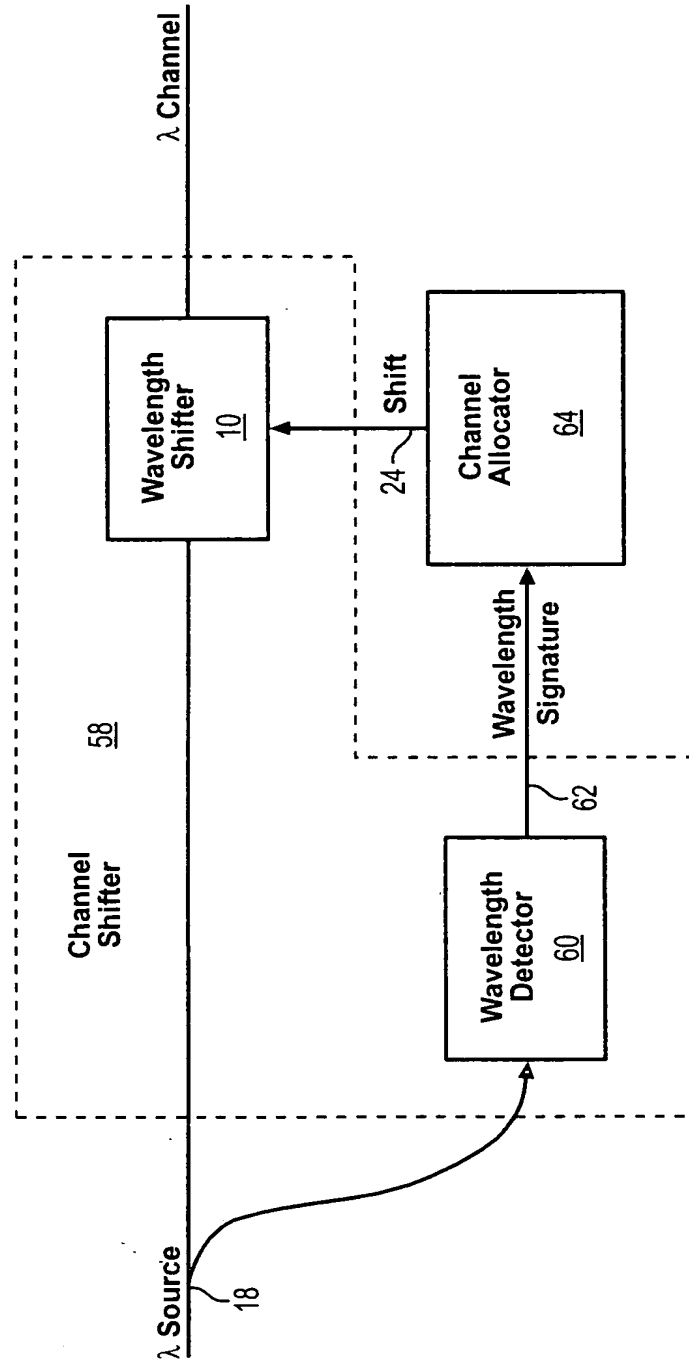


FIG. 11

# Tunable Wavelength Stabilized Transmitter

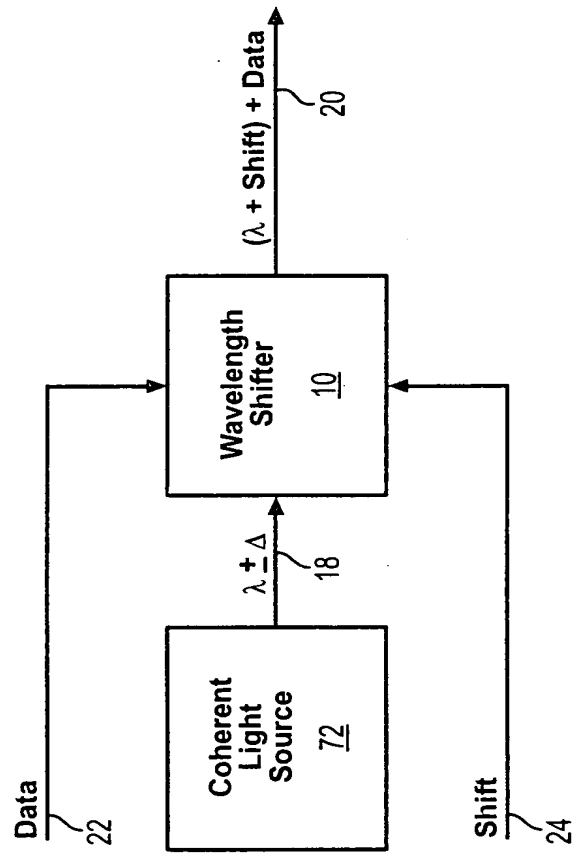
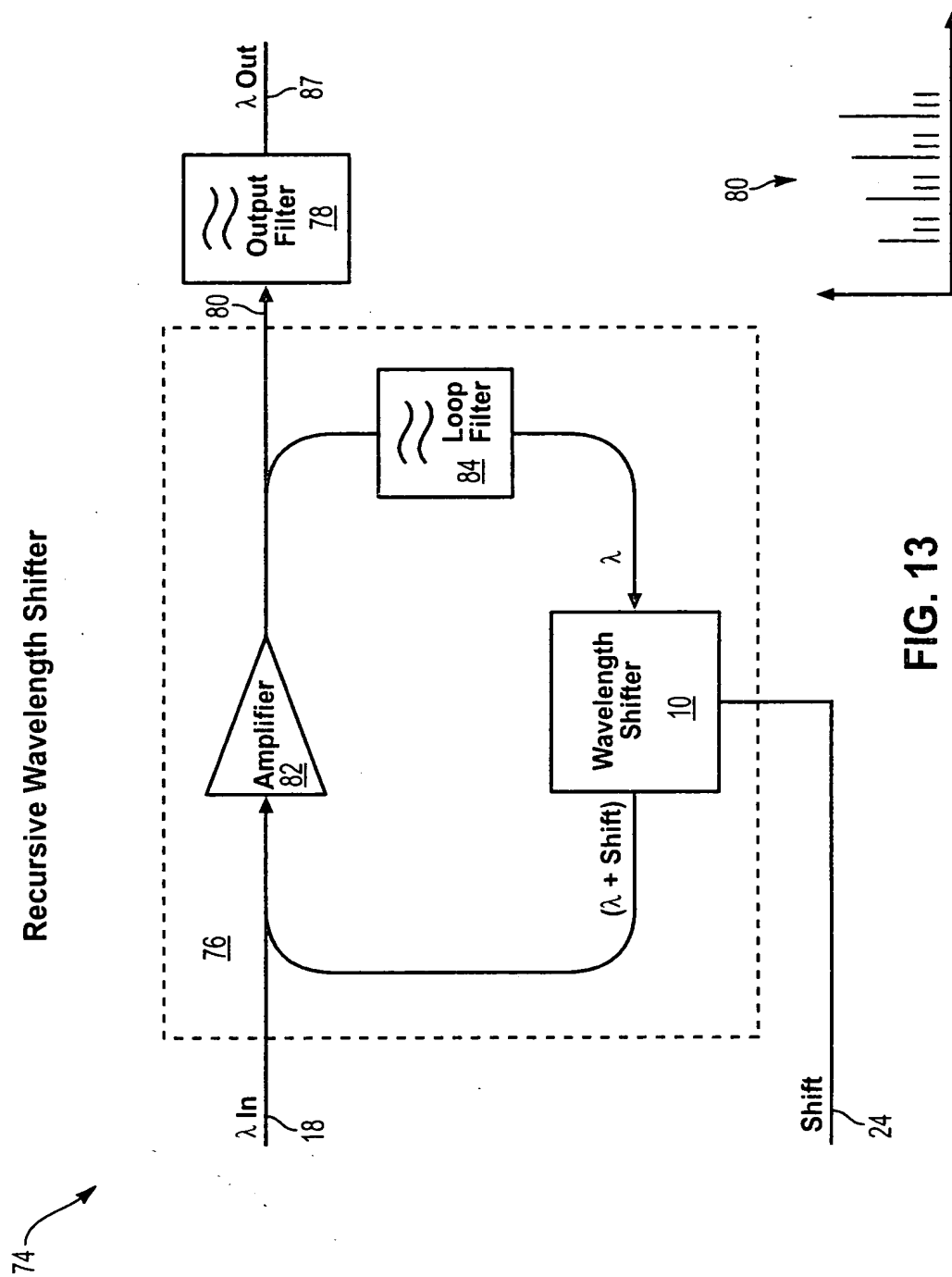


FIG. 12

# Recursive Wavelength Shifter



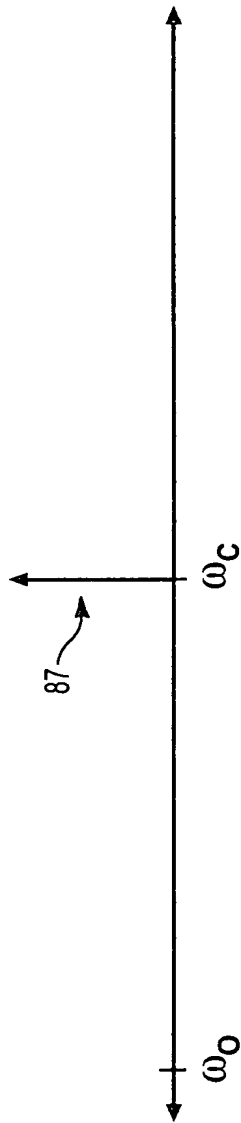
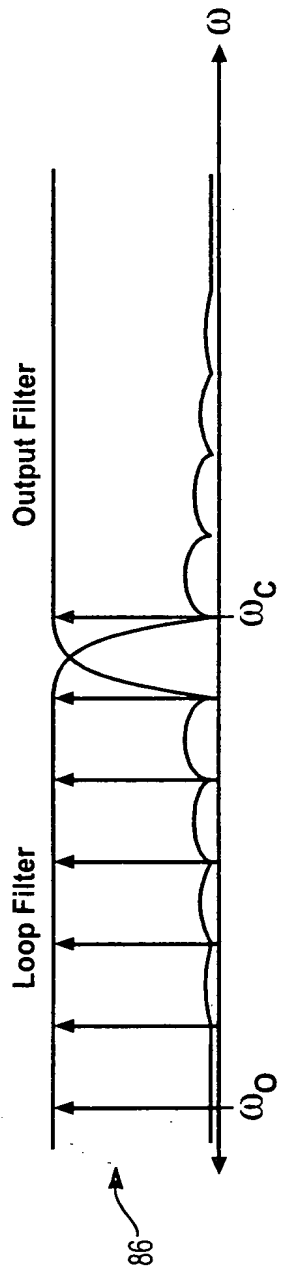


FIG. 14